

Application No.: 10/089,869  
Filing Date: July 8, 2002  
Docket No.: 753-13 PCT/US  
Page 4

**E. Remarks/Arguments:**

**Introduction**

Claims 1 and 2 were previously cancelled. Claims 3-5 are rejected. Applicant has hereby amends claims 3, 4 and 5.

Applicant respectfully submits that the new claims obviate the Examiner's rejections. Reconsideration and withdrawal of the rejections are respectfully requested.

**Section 103 Rejections**

Claims 3-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Patent Number CH 684938 A5 to Gerber (referred to as Ernst in the Official Action, hereinafter Gerber as Ernst is the Given name) in view of U.S. Patent No. 5,617,879 to Kubala. Applicant respectfully traverses.

In contrast to the current invention, Kubala fails to show the feature of the groove in the sealing washer as in the present invention. The invention as presently recited in amended independent claim 3 is distinguished from the cited prior art. A washer, according to Webster's New Collegiate Dictionary is a flat thin ring or perforated plate used in joints or assemblies to ensure tightness, prevent leakage, or relieve friction. In paragraph 2 of the Office Action the Examiner analyzes the Gerber reference stating; "Ernst discloses the invention substantially as claimed above but fails to disclose that the groove is wider than the elastic sealing body." The Examiner is correct in stating that Gerber discloses the invention substantially as claimed, but fails to disclose the groove is wider than the elastic sealing body. The missing feature however is not disclosed in Kubala.

Kubala discloses a coolant system 10 which interfaces the outlet of a coolant course 11 and a rotating shaft 12. This coolant system contains a cartrididge 16 which is rigidly mounted

on a support 14, i.e. it is a stationary device which in spite of the term “rotating coolant union” does not rotate together with either the drive shaft 12 of the spindle box 13. The cartridge contains an end cap 30 which is part of a housing 34 defining a seal chamber 35 which locates a floating seal assembly 32, consisting of rotating seal member 36 and non-rotating seal member 38 (col. 5, lines 45-65). A further sealing arrangement is provided between the inner surface of the end cap 30 and the carrier 40.

The axial dimension of end cap 30 is in the same order of magnitude as its diameter, therefore it cannot be considered as a washer. The axial dimension of a washer is small, so that not much room is available for a groove in the inner cylindrical surface. Therefore, one skilled in the art trying to improve the washer of Gerber would not primarily consider an oversized groove. Specifically, the disclosure of Kubala would provide no teaching or suggestion for improving the washer of Gerber since in Kubala the end cap provides ample space for axial grooves of any size.

In Kubala, the axial dimension of the groove is necessary to allow for the axial movement of the O-ring together with the axial motion of the carrier. The sealing action is effective only in one of the two end positions, when the carrier is shifted to the left and the backup ring together with the O-ring are in contact with the groove side wall 99. Because of the relative movement there could be issues with respect to premature wear if a normal O-ring seal were used.

In Gerber, no relative movement takes place between the sealing washer and the tool shank. Therefore, there was no obvious need for a groove width allowing axial movement of the O-ring. Moreover, as during operation of the tool, the tensioning nut and the washer are fixedly connected to the collet. Therefore the device of Gerber can not have any wear issues as the two components are fixedly connected.

In addition, the Examiner is incorrect in stating that the “opening being wider than the diameter of the tool shank is disclosed by Gerber” since, Kubala is referring to gap 88 and it is clear that

Application No.: 10/089,869  
Filing Date: July 8, 2002  
Docket No.: 753-13 PCT/US  
Page 6

this is not an open gap , but the configuration is that of a sliding seat. Therefore, it would not be possible to use the configuration of Kubala in the system of Gerber. In other words, if in the system of Kubala, gap 88 would be open as in Gerber the carrier would not have any sliding seat. Alternately if in the system of Gerber, the gap would gap would be as narrow as described in Kubala, the sealing pressure would not build up in the groove. Therefore the disclosure of Gerber teaches away from the invention of Kubala. Thus, the combination of Kubala and Gerber do not disclose and fails to teach or suggest the present invention as defined by new independent claim 3.

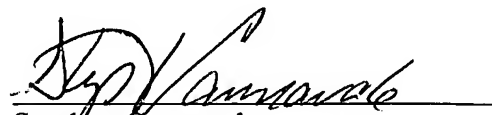
#### Summary

Therefore, Applicants respectfully submit that new independent claim 3, is patentably distinct from the cited reference, and is thus allowable. Claims 4 and 5, being dependent on independent claim 3 are allowable therewith. Thus, this application is believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461.

Respectfully submitted,



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Application No.: 10/089,869  
Filing Date: July 8, 2002  
Docket No.: 753-13 PCT/US  
Page 7

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